Non-Discretionary Project Results For FY 1998

Project 96-017-00: Provide Technical Support in the Plan for Analyzing and Testing Hypotheses - BioAnalysts Inc.

BPA Contact: Jim Geiselman

FY99 Forecast: $108,887

FY98 Funding: $110,000

Project Requirements:
The contract is for work performed primarily by Dr. Al Giorgi and provides ongoing independent scientific support for analyses of hydro related hypotheses and management actions for BPA's participation in the PATH process and in consultation processes for ESA listed species. The contract ensures independent expertise in mainstem passage data, research, and analyses for the hydro subgroup within PATH. In particular, the analysts identify the availability, quality and applicability of historic passage data for use in modeling spring and fall chinook and steelhead. The analysts also assist modelers in the proper interpretation and application of relevant information in the construct of submodels and functions. The contract provides support in designing and evaluating diagnostic analyses during model development and revision. In addition to direct technical support, the contractor will coordinate/facilitate the activities of the PATH hydro subgroup on fall chinook and provide scientific review for other PATH subgroups and work products. The analysts have and will continue to write issue papers dealing with smolt and adult passage mechanisms and estimates and hydro operations, as requested by various work group leaders.

Tasks for FY 1998 include:

Task 1: Conduct reconnaissance of fall chinook and steelhead data sets and estimates for potential use in PATH analyses and model development. Identify and compile data sets required for analyses as requested by PATH managers. Assess the strengths and limitations of data sets and estimates, and provide recommendations as to their reliability, quality, and suitability for specific applications. Data sets may include: tagging information (CWT, PIT, freeze brand, radio telemetry or balloon tags), adult abundance estimates (e.g. dam counts, redd/spawner estimates), and estimates of juvenile abundance (e.g. parr in tributaries, smolts at dams).

As facilitator for the fall chinook passage modeling Work Group, Giorgi has been reviewing all data sets describing FTT, predator abundance, FGTE, Spill efficiency, survival estimates, etc. that have been identified for use in modeling Snake River Fall Chinook. Data sets and estimates have been posted on a Fall chinook WEB page resident at CBR.

Task 2: Act as facilitator and coordinator for the Fall Chinook Hydro/Early Life History Work Group. Responsibilities include coordinating activities of modeling groups, synthesizing output from model analyses, disseminating information to all work group members, scheduling work sessions, and coordinating the assembly of work products into documents for PATH.

Dr. Giorgi, has been one of two facilitators coordinating the compilation of passage data and modeling of Snake Rive fall chinook. He has been organizing meetings, disseminating minutes, assigning tasks, and reviewing work products submitted by Work Group members. He established and regularly posts work products on the fall chinook WEB page to archive all pertinent information and provide historical record of progress in the hydro analyses. That page is currently secured and only available to Work Group members. Dr. Giorgi is currently reviewing retrospective and prospective results and diagnostic analyses, to resolve any inconsistencies that may emerge in this phase of analysis.

Task 3: Participate in PATH-related technical meetings (work group sessions) and workshops as directed by PATH managers or BPA staff. Forums may cover topic matters involving mainstem fish passage issues and ecological processes affecting salmon stocks within the Snake/Columbia Basin.

Thus far in 1998, the only technical meeting have been one-day work group meetings convened for fall chinook passage modeling. A record of those is posted on the WEB page.

Task 4: Conduct assignments involving data analyses, or writing research documents as instructed by the PATH group. Most activity in this regard has been and will continue to be within the Hydro Group dealing with spring chinook and steelhead. Products will be incorporated into formal publications released by PATH.

Giorgi has been assigned the task of coordinating the data report for fall chinook. This involves writing certain sections, overseeing the drafting of all other chapters, and review and comment of those materials prior to submission to ESSA. The scope of the report includes all passage related information, run reconstruction, model descriptions, and retrospective results from both passage and life cycle models. He has draftee issue papers

He has drafted four issues papers for the fall chinook WG treating; spill efficiency, transportation, general passage issues, and migration speed based on freeze brand data. All are resident on the WEB page

He has also been involved in review of survival goals for steelhead as formulated by NMFS for inclusion of the latest BIOP.

Task 5: Review and critique technical materials produced by other members participating in the PATH process. Materials to be reviewed include; models, hypotheses and assumptions within those models, and analyses that may support or refute certain hypotheses. Products and analyses from

the Harvest, Habitat, and Hatchery groups, as well as the Hydro group will be included in this activity.

Giorgi has been providing input regarding the Weight of Evidence process for spring/summer chinook; proposing means to test certain assumptions, and reviewing tests proposed by other parties. Of course all work products submitted by fall chinook work group members have been reviewed.

Task 6: Assess the relevance of empirical evidence in evaluating management actions being considered as recovery strategies. In particular, identify recent empirical evidence that is not necessarily incorporated within existing models, but is important in evaluating the efficacy of management alternatives being considered as strategies for salmon recovery.

In 1998 these activities focused on fall chinook passage-related information that is being treated in the modeling work group.